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IN THE UNITED STATES PATENT AND TRADE MARK OFFICE

VERIFICATION OF TRANSLATION

I, Michael Wallace Richard Turner, Bachelor of Arts, Chartered Patent Attorney, European Patent Attorney, of 1 Horsefair Mews, Romsey, Hampshire SO51 8JG, England, do hereby declare that I am conversant with the English and German languages and that I am a competent translator thereof;

I verify that the attached English translation is a true and correct translation made by me of the attached Amended Pages in the German language of International Application PCT/DE03/03905;

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment or both under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

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Mold jaw half for an apparatus for the production of
transversely ribbed tubes

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The invention concerns a mold jaw half for an apparatus for the production of transversely ribbed tubes, wherein the mold jaw half has end faces which are provided oriented in the advance direction along a mold section in mutually parallel and closely mutually juxtaposed relationship and bear closely and in positively locking relationship against each other and a base face and in its interior a cooling passage with a coolant feed and a coolant discharge for a coolant, which open at a spacing from each other at the base face of the mold jaw.

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15 An apparatus for the production of transversely ribbed tubes is described for example in DE 197 02 647 C1.

The coolant feed and the coolant discharge are connected to associated cooling passage portions which are in flow communication at their end remote from the coolant feed and discharge, by means of a passage communicating portion.

20 In known mold jaw halves the coolant feed, the cooling passage main portion adjoining same, the cooling passage communicating portion adjoining same, the main portion adjoining same and the coolant discharge adjoining same are of a configuration extending in a U-shape, viewed in a direction on to the end faces of the mold jaw half. Such a configuration, that is to say such a formation for the cooling passage, gives rise to a given flow resistance for the coolant as it flows through the cooling passage, the coolant being in particular water. That flow resistance causes a correspondingly reduced through-put of coolant, that is to say water, through the cooling passage of the respective mold jaw half. That has a corresponding effect on the productivity of the apparatus for the production of transversely ribbed tubes.

A corresponding consideration applies for the apparatus for the production of transversely ribbed tubes, which is known from US-A-4 492 551, wherein each mold jaw half of that known apparatus has end faces which along a mold section are provided oriented in the advance direction in mutually parallel and closely mutually juxtaposed relationship and bear in positively locking relationship against each other and a base face and in its interior a cooling passage having a coolant feed and a coolant discharge for a coolant, which open at the base face of the mold jaw at a spacing from each other. In that known mold jaw half the cooling passage has a first cooling passage portion and a second cooling passage portion spaced therefrom in the advance direction of the mold jaw half and a cooling passage communication portion which connects the first and second cooling passage portions together and which extends in a v-shaped configuration. The first cooling passage portion is connected to a cooling water feed and the second cooling passage portion is connected to a cooling water discharge which – as can be seen from Figures 2 and 3 of that state of the art – as viewed in a direction viewing on to the end face of the mold jaw half, are oriented in mutually parallel relationship. Therefore, in a direction viewing on to the end face of the mold jaw half, the respective cooling passage is of a configuration extending in a U-shape - similarly to the case with the apparatus in accordance with above-mentioned DE 197 02 647 C2.

In consideration of those factors the object of the invention is to provide a mold jaw half of the kind set forth in the opening part of this specification, wherein the coolant or water through-put through the cooling passage is increased.

In accordance with the invention, in a mold jaw half of the kind set forth in the opening part of this specification, that object is attained in that the coolant feed and the coolant discharge cross – as viewed in a direction viewing on to the end faces of the mold jaw halves – and are oriented in opposite relationship with respect to the advance direction of the mold jaw halves in order to provide that the coolant is shovelled into the cooling passage.

By virtue of such a configuration for the cooling passage, that is to say the coolant feed and the coolant discharge of the cooling passage, in an orientation in opposite relationship to the advance direction of the mold jaw, the coolant, preferably water, which flows into the coolant feed, is so-
5 to-speak shovelled into the cooling passage so that an increased level of water or coolant through-put and a corresponding improvement in the cooling action of the coolant or water in the cooling passage of the mold jaw half is afforded. An apparatus for the production of transversely ribbed tubes, which is equipped with mold jaw halves according to the invention,
10 enjoys a correspondingly improved level of productivity.

In the case of the mold jaw half according to the invention, the coolant feed and the coolant discharge - viewed in a direction viewing on to the end faces of the mold jaw halves - can be of a mirror-image symmetrical configuration in order to achieve correspondingly symmetrical
15 flow conditions through the cooling passage of the mold jaw half.

(Continued on page 2, line 21 of the translation of the original PCT text)